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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MULLIS, JEFFREY C

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 09/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/884,108

Applicant(s)

COURT ET AL.

Examiner

Jeffrey C. Mullis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Applicants' Abstract is not in the form of a single paragraph. Correction is required.

Claim 2 contains two occurrences of the term "at".
Correction is required.

Claims 17, 18 and 20 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 17 refers to two different features in different claims, namely claims 1 and 16 and therefore claim 17 is improper. Furthermore claim 16 from which claim 17 depends contains all of the limitations of claim 1 by virtue of the fact that claim 16 depends from claim 1 and therefore the recitation that "the S and B blocks of the diblock S-B are those of claim 1" do not serve to further limit claim 16 from which claim 17 depends.

Claim 20 embraces materials which do not necessarily contain S-B-M block copolymer despite the fact that claim 1 requires such and therefore claim 20 is broader than claim 1 in certain aspects. Therefore claim 20 does not further limit claim 1.

Claims 1-22 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point

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out and distinctly claim the subject matter which applicants regard as the invention.

The limitation that the glass transition temperature is less than the temperature for using the rigid material renders claim 1 unclear in that the temperature of using the rigid material is unclear and therefore the glass transition temperature is unclear. Furthermore claim 1 is not drawn to a method of using a material and therefore this limitation makes no sense in the context of claim 1.

It is not clear what is intended in claim 2 by the recitation that the M blocks consist of syndiotactic PMMA "at least 60%" in that it is not required what is at least 60%.

The "dienes" of claim 7 lack antecedent basis in claim 4 from which this claim depends.

The term "may be" as recited in claims 12 and 13 renders these claims unclear since it cannot objectively be determined if the molar masses recited in these claims necessarily limit these claims.

Claim 14 is unclear since claim 14 recites that the proportion of modifier is "1 to 35% for 99 to 65% resin" and since claim 1 is not limited to 1-35% impact modifier, it cannot be determined if claim 14 is necessarily limited to 1-35% impact modifier or if the 99-65% resin A is necessarily in this range

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only when and if the amount of impact modifier is 1-35%. Claim 15 contains a similar defect.

The recitation in certain dependent claims such as claim 17 that the S and B blocks of the diblock S-B are those of claim 1 renders the claims unclear since a dependent claim necessarily contains all the limitations of the claims from which it depends and since claim 1 already recites S and B as moieties, the definitions would necessarily have to be the same despite the fact that the dependent claims such as claim 17 appear to imply that sometimes they may be different.

Claim 19 is unclear in that claim 19 recites "star-shaped triblocks S-B-S" despite the fact that S-B-S is not a star shaped triblock. Furthermore it is not clear what a star shaped triblock would be in that a star shaped polymer would necessarily have to have three arms or otherwise would be a linear polymer, not a star shaped polymer.

It is not clear if the S-B-S block copolymers recited by claim 19 are meant to be different than the S-B-M block copolymers of claim 1 given that the definitions for S and for M overlap, i.e. there is nothing excluding the possibility that the S block is a methyl methacrylate containing block.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-19 and 21-23²⁶ are rejected under 35 U.S.C. § 102(b)

as being anticipated by Gottschalk et al. (Mcromol. Symp. 83,127-146, 1994).

Gottschalk et al. disclose a blend of polyphenylene oxide (PPE) and SAN (embraced by applicants' aromatic vinyl resin) as well as other aromatic vinyl resins with a compatibilizer which is either or both of a polystyrene-polymethacrylate diblock copolymer or a polystyrene-hydrogenated polybutadiene-polymethyl methacrylate block copolymer. Note the Abstract in this regard. Note applicants' molecular weights in Tables 2 and 4.

Claims 1-23²⁶ are rejected under 35 U.S.C. § 102(b) as being anticipated by Mehler, Kunststoffe, 88, 1872, 1874 and 1876.

Note that the International Search Report indicates that this reference is in the 'X' category. The reference therefore anticipates the claims. Note the paragraph bridging pages 1872 and 1874 where it is disclosed that an ABC triblock copolymer which is polystyrene-polybutadiene-polymethyl methacrylate is used as a compatibilizer and that the second paragraph on page 1874 discloses that compatibilization of PPE/SAN blends may be successfully carried out. Note the footnote to Figure 5 on page

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1874 which discloses that HIPS may be present, i.e. impact modified polystyrene.

Claims 1-²⁶~~23~~ are rejected under 35 U.S.C. § 102(b) as being anticipated by Gottschalk, DE 4240445.

Note that the International Search Report indicates that this patent is in the "X" category. The reference therefore anticipates the claims. Note Table 2 for use of a polystyrene-polybutadiene-polymethyl methacrylate compatibilizer for a composition containing SAN (component C) and polyphenylene ether (component A). Note applicants' molecular weights at page 10 lines 4-6.

Any inquiry concerning this communication should be directed to Jeffrey Mullis at telephone number (703) 308-2820.

J. Mullis:cdc

September 25, 2002

Jeffrey Mullis
Primary Examiner
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